

Work Order ID 144277

April 11, 2016 2:38:53 PM

647.3916
B144277
REV. C2

144277

Page 1

Item ID: 647.3916

Revision ID:

Item Name: Deflector

Start Date: 4/25/2016 Start Qty: 12.00

Required Date: 5/2/2016 Req'd Qty: 12.00

Reference:

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals:

Process Plan: SH

Date: 20160411

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

647.3900

C2

100

0.00

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blank at 16.625"

0.00

3 0 SL

110

0.05

110

~~HAAS1~~ HAAS #4

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB295

DWG REV: C2

FOLIO REV: AA

0.13

2- deburr and break all sharp edges

8 0 SL/6-4-15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 144277

144277

Page 2

April 11, 2016 2:38:53 PM

Item ID: 647.3916 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Deflector
 Start Date: 4/25/2016 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 5/2/2016 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00				8	0		SL 16415
120									
QC	Memo	0.00							
Quality Control									
130	QC8- Inspect parts - second check	0.00				8	0		DAS 08 9-00
130									
QC	Memo	0.00							
Quality Control									
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00				8		APR 21 2016	DAS 13 9-00
140									
Outsource4	Memo	36.00							
Outsource process	Issue P/O to ATG : <u>32124</u>								
Anodize	1- Black Anodize as per Dwg 647.3900								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Conformity is required								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____ Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 144277

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Item ID: 647.3916 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Deflector
Start Date: 4/25/2016 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 5/2/2016 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging	Mat'l Certs req'd.								
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									
180	Identify as per dwg & Stock Location: <u>CK023</u>	0.00							
180									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

84 8016-04-26

8 DAS 38 9-89
APR 26 2016

8 DAS 6 8-89
APR 29 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	OTHER :							
Misidentified	☐	Past Due								

Work Order ID 144277

144277

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April 11, 2016 2:38:53 PM

Item ID: 647.3916 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Deflector
 Start Date: 4/25/2016 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 5/2/2016 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.02							
Quality Control									

MCS MAY 02 2016
 Lem 16/04/2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

April-11, 2016 2:38:58 PM

Page 1
1

Work Order ID: 144277

144277

Parent Item: 647.3916

647 3916

Parent Item Name: Deflector

Start Date: 4/25/2016

Required Date: 5/2/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP REV A RQ 14/05/28 VERIFIED BY DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B3.000X7.500		Purchased	No			100	f	11.0800	1.385	17.49474			
M7075T6B3 000X7 500									**			SL 16-4-15	
7075-T6 BAR 3.000' X 7.500" (order in billets)													

Location

Loc Qty

Loc Code

MAT024

11.08

m133829

11.08

11.08



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO. 04948

SHEET 1 OF 2

DWG NO. 647.3900

REV: C

PREPARED BY:

M. ANDECK

DATE: 05/04/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY:

ENGR

Brava

MFG

Dave Pad

QC

[Signature]

EFF:

CURRENT ORDER

ECR:

D-15-01

REASON: REVISED TOLERANCE AND NOTES

NOTES:

1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.

2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;

3. DEBURR AND BREAK ALL SHARP EDGES.

4. IDENTIFY IAW MPP-120.

5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.

6 MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.

7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES

8 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.

9 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.

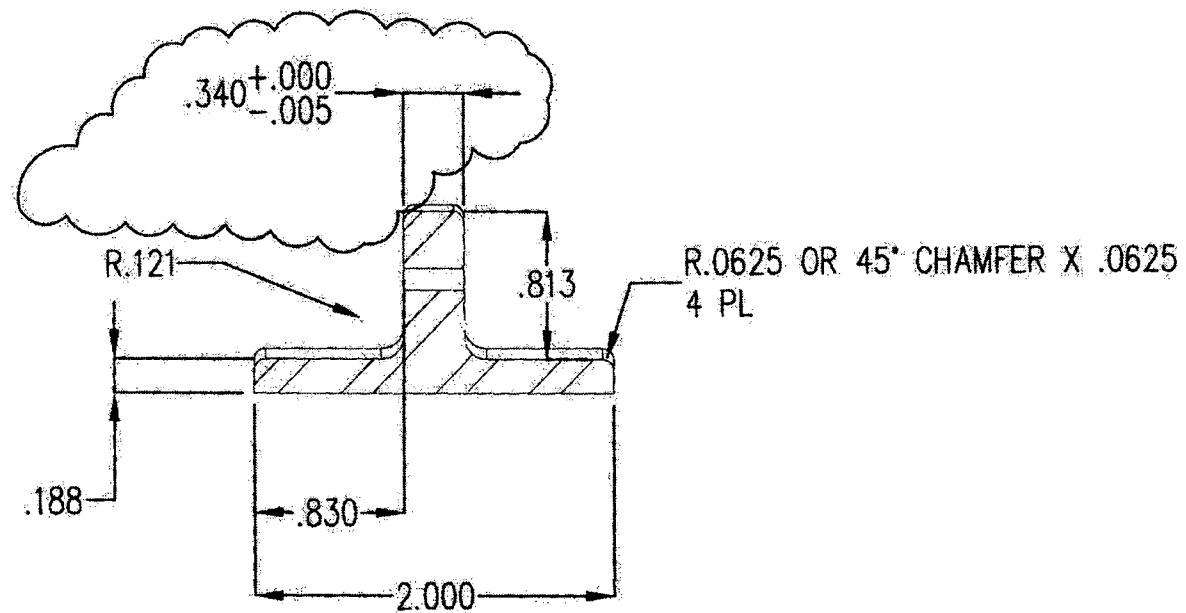
10 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.

SHEET 1, ZONE B1 IS:

20160411

SA 144277

11	R	647.3917	2				DOUBLER		
F/N	TC	PART NUMBER	.3903	.3902	.3901		DESCRIPTION	MATERIAL	SPECIFICATION
			QTY						
DOCUMENTS EFFECTED:							CHANGE CATEGORY	DER REVIEW REQUIRED	
☐ PATTERN ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☒ BOM							☐ MAJOR ☒ MINOR	☐ YES ☒ NO	



SECTION AT-AT

SHEET 11, ZONE C1 IS:

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04556

SHEET 1 OF 2

DWG NO. 647.3900

REV: C

PREPARED BY D. MEJIA

DATE: 06/10/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY: ENGR

MFG

QC

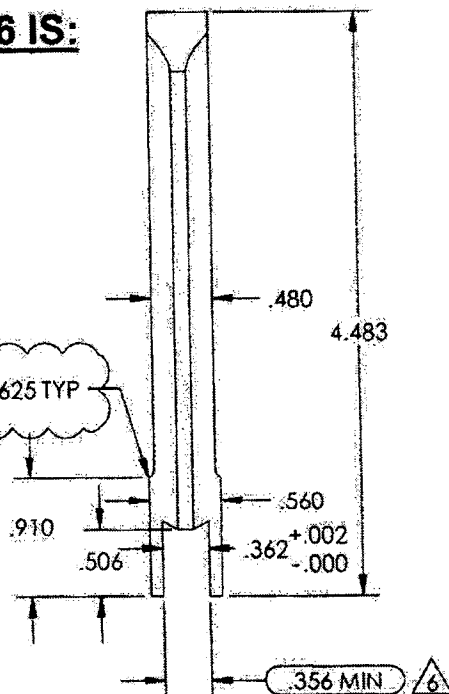
EFF. NEXT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

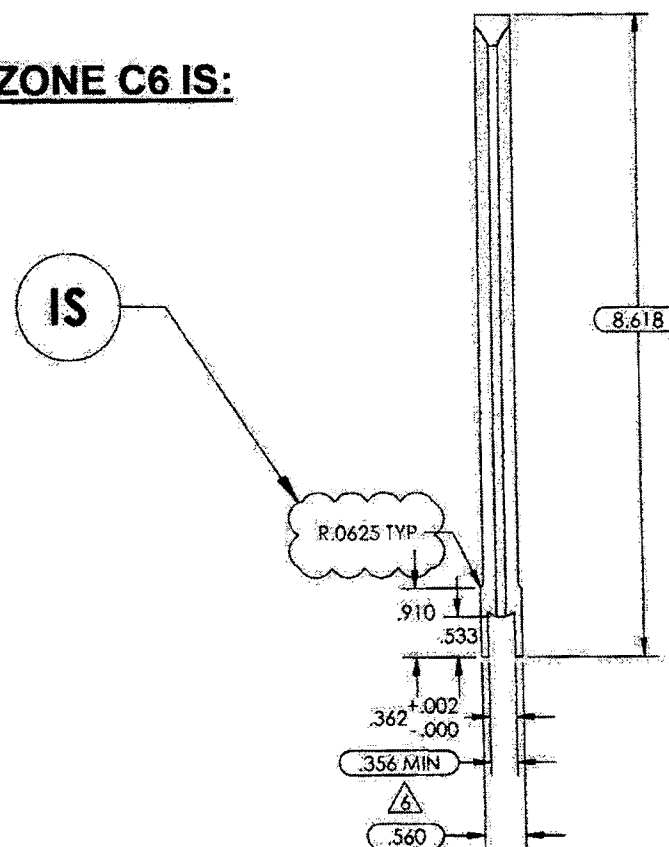
REASON: CHANGED P/N, DIMENSIONS & REVISED BOM

ECR: D-14-04

SHEET 5, ZONE C6 IS:

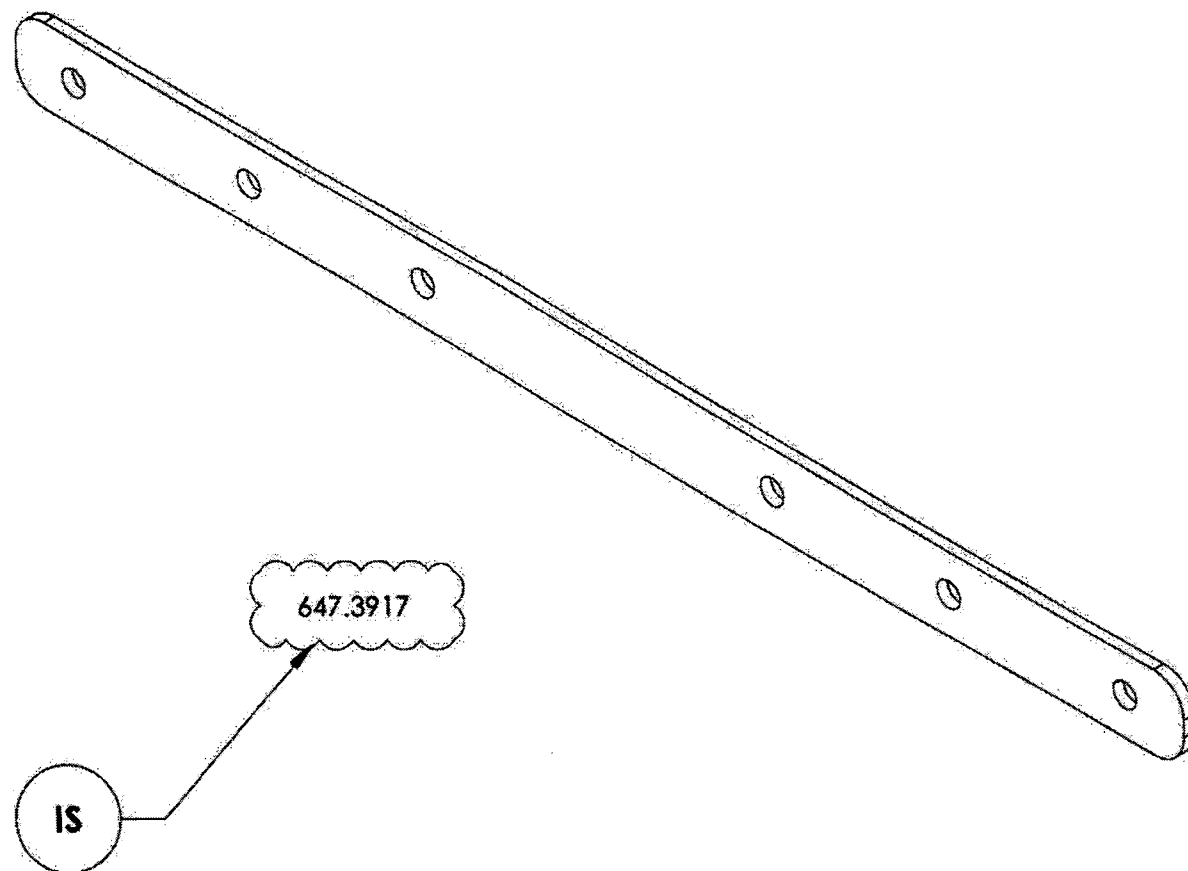


SHEET 6, ZONE C6 IS:



SHEET 1, BOM IS:

11	R	647.3917	2		DOUBLER		
F/N TC	PART NUMBER	3903	3902	3901	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY				
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO

SHEET 12, ZONE B5 IS:

NOTES:-

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
5. APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
6. MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
8. FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
9. FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.

REVIEWS		DATE	
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASE: PRI		N/C
N/C	INITIAL RELEASE	09/10/09	P. BRAVO
A	INCORPORATED ECU 00864, 00357 & 00395	07/24/12	P. BRAVO
B	INCORPORATED ECU 04025	06/03/13	P. BRAVO
C	INCORPORATED ECU 04038, 04085 & 04250	11/18/11	P. BRAVO

UNINCORPORATED ECN(S)

04556, 04948

6			12	601.3072	RIVET	CR3213-6-9	
2			11	647.3917	DOUBLER		
1			10	647.3916	DEFLECTOR, UPPER HALF		
1			9	647.3915	DEFLECTOR, LOWER HALF		
	1		8	647.3914	BREAKAWAY TIP LONG		
		1	7	647.3913	BREAKAWAY TIP MEDIUM		
	1	1	6	647.3912	LOWER DEFLECTOR		
			5	647.3911	212 UPPER DEFLECTOR		
			4	647.3910	412 UPPER DEFLECTOR		
A/R	A/R	A/R	3	601.2045	RTV, LOCTITE 598		
	3	2	2	601.3074	RIVET	MS20470AD 6-12	
			1		DELETED		
X				647.3903	DEFLECTOR ASSY		
	X			647.3902	LOWER DEFLECTOR ASSY HIGH		
		X		647.3901	LOWER DEFLECTOR ASSY LOW		
.3903	.3902	.3901	FIND #	PART #	DESCRIPTION	MAT'L	SPEC

QTY	ORIGINAL DATE (MM-DD-YY)	ISSUED BY	DATE	REV.
NEXT ASSY (S)	07-10-00	02000ER		
647.3800	DRAWN BY	02000ER		
	DSCURH	02000ER		
	DRAWING APPROVAL			
	BY			
	DATE			
	CONTRACT NO.			
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLAST DIMENSIONS ±.01 3 PLAST DIMENSIONS ±.005 ANGLES ± .5°			
	SEE	CAGE CODE	DWG. NO.	REV.
	6	07M36	647.3900	
	SCALE	NONE	SHEET	1 OF 2

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.125 X 45.0° TYP

SECTION B-B

Ø.177 THRU 3PL

.266 X 17.9°

.045

.603

.923

R.915

4.220±.002

2.110±.002

DETAIL A

R.279

R3.406

15.896

15.304

15.046

B

B

Ø.189

6.446

40.2°

.312

0

18.502
18.127

35.8°

10.702

8.599

6.253

1.700

.777

0

.700

.340^{+0.000}
-.002

△.346 MAX

DETAIL C

.035 X 45.0° TYP

.375

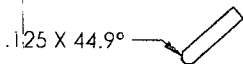
15.896

C

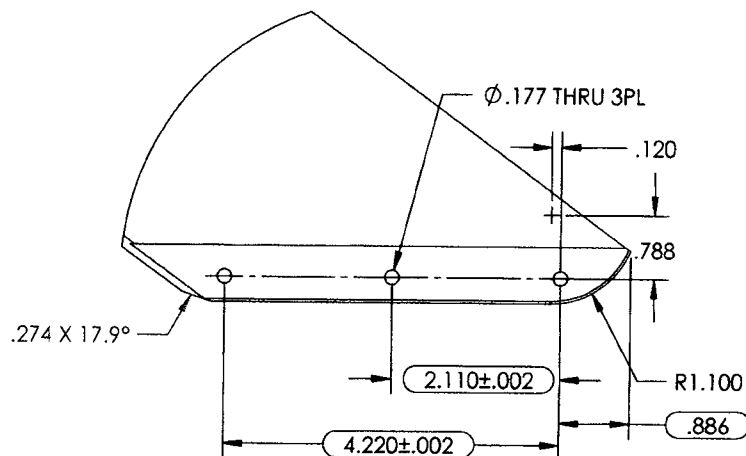
647.3911

ORIGINAL DATE 10/04/2011 09:10:09		APICAL INDUSTRIES	
DRAWN BY J. SCHUR		2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL P. BRAVO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET B	2 OF 12
SCALE NONE		DWG. NO. 647.3900	REV. C

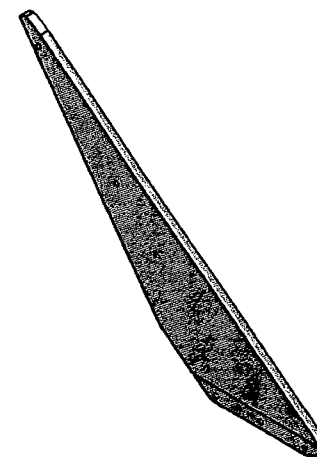
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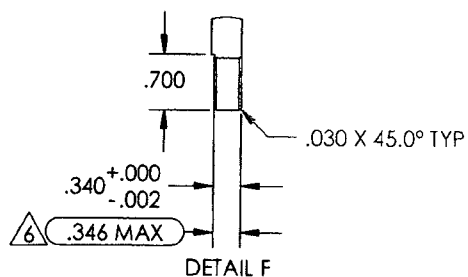
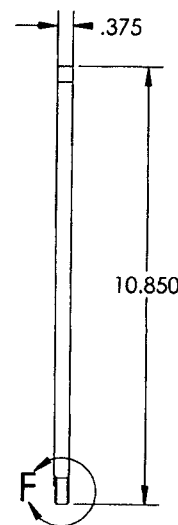
SECTION E-E



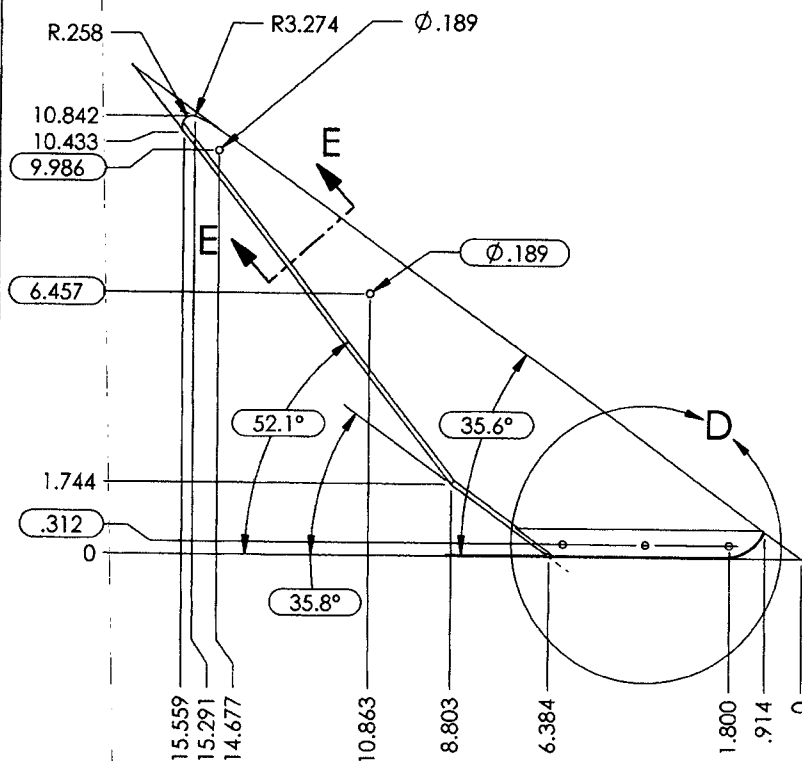
DETAIL D



647.3910

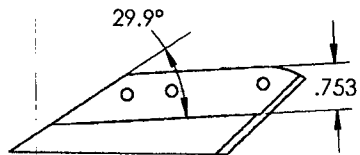


DETAIL F

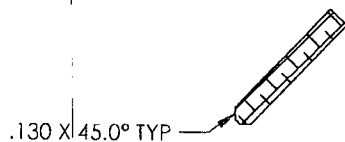


ORIGINAL DATE UNDO-475 01-10-07		APICAL INDUSTRIES	
DRAWN BY J.SCHUR	CHECKED D.BA RER	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		SHEET B	REV. C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 ANGLES ± 5°		DWG. NO. 647.3900	SCALE: NONE
		SHEET 3 OF 12	

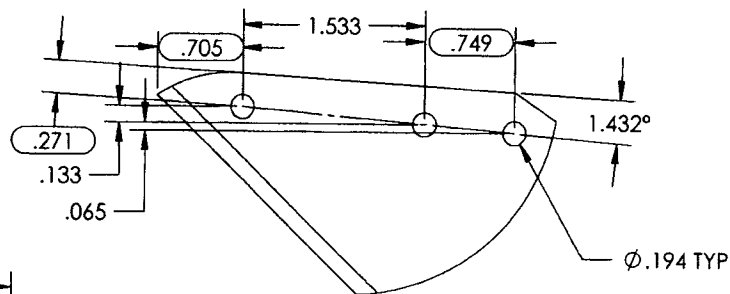
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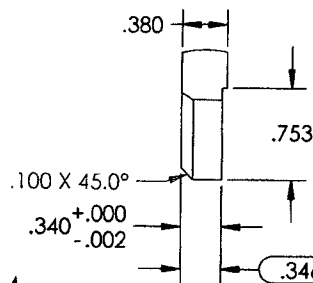
SECTION L-L



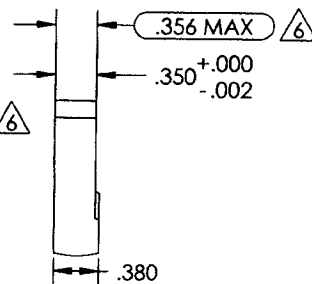
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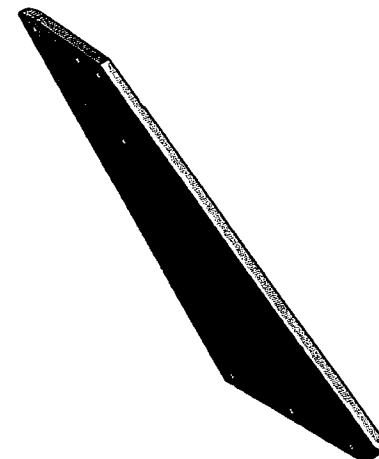
DETAIL H



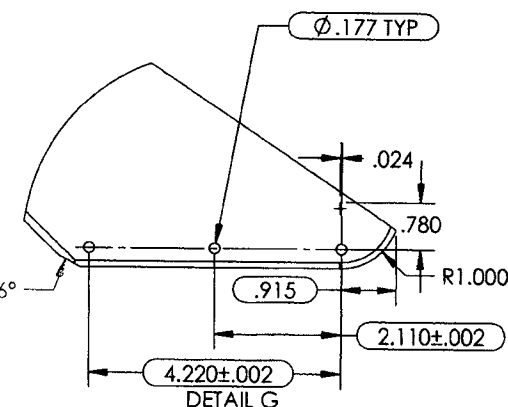
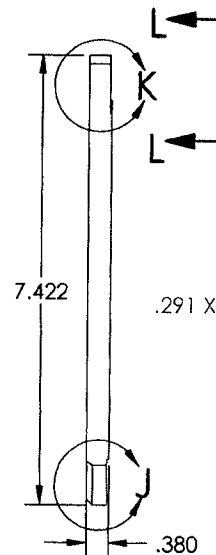
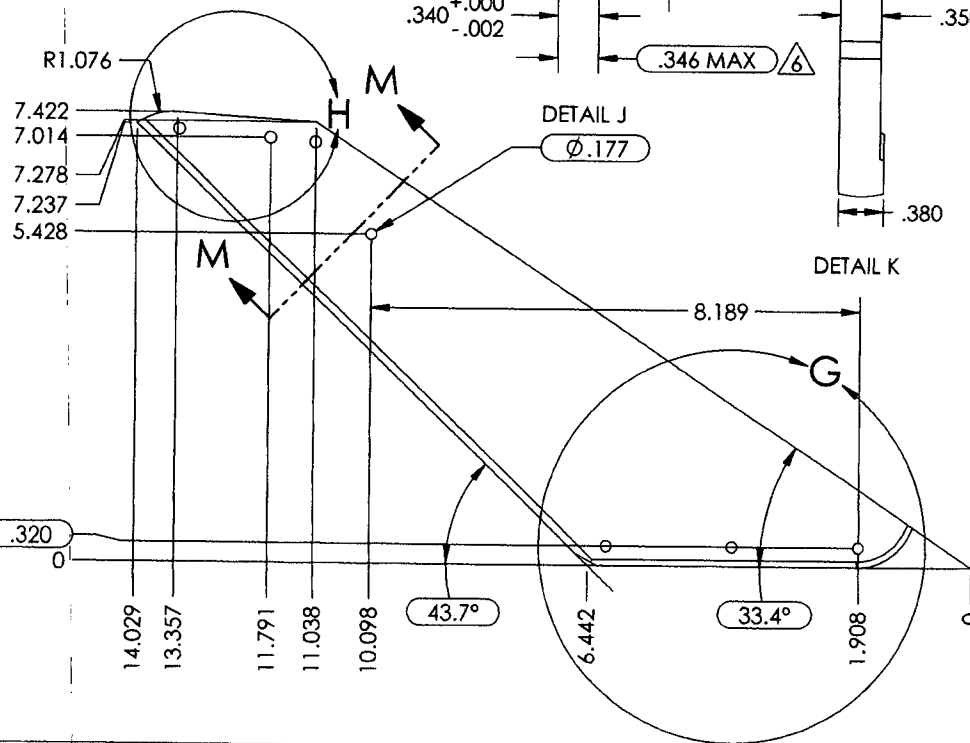
DETAIL J



DETAIL K



647.3912

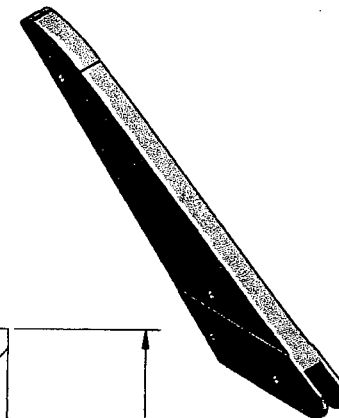


DETAIL G

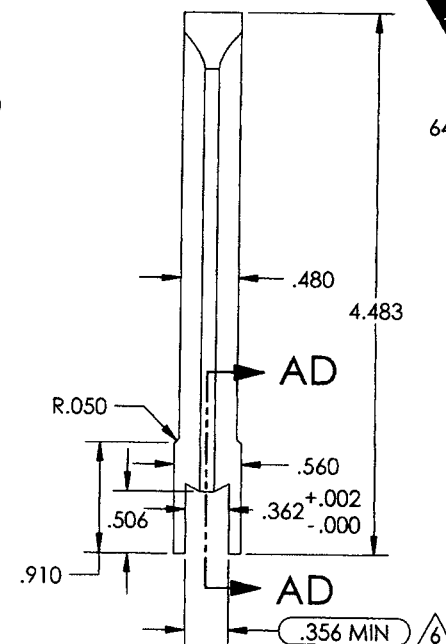
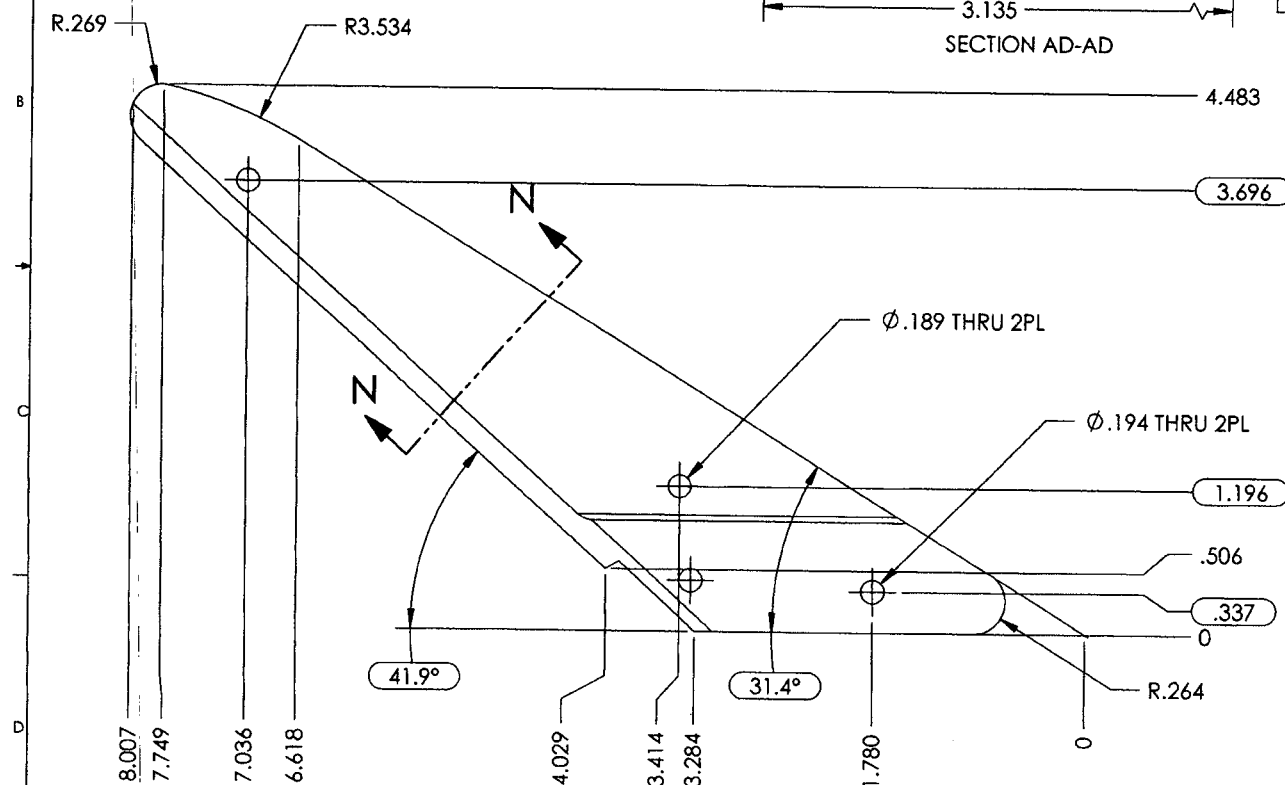
ORIGINAL DATE 10/10/07		APICAL INDUSTRIES	
DRAWN BY D.SCHUP	CHECKED BY D.BARKER	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		SRE	REV.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		CAGE CODE B 07M26	C
		DWG NO 647.3900	
		SCALE NONE	SHEET 4 OF 12

180 X 45.0° TYP

SECTION AD-AD

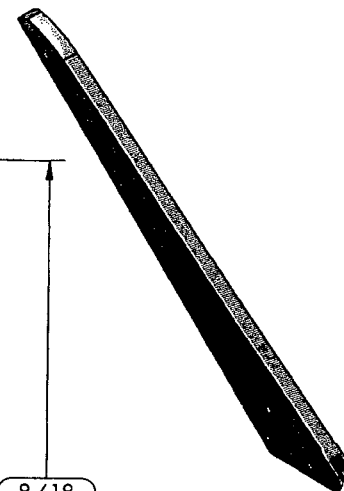
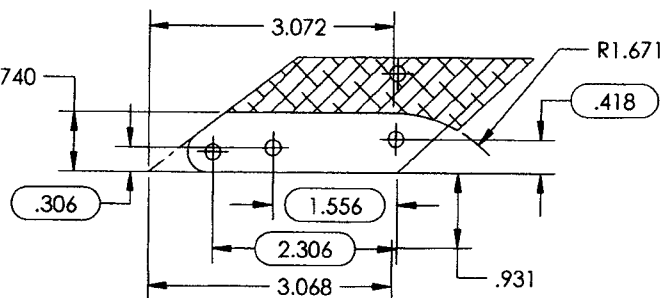


647.3913



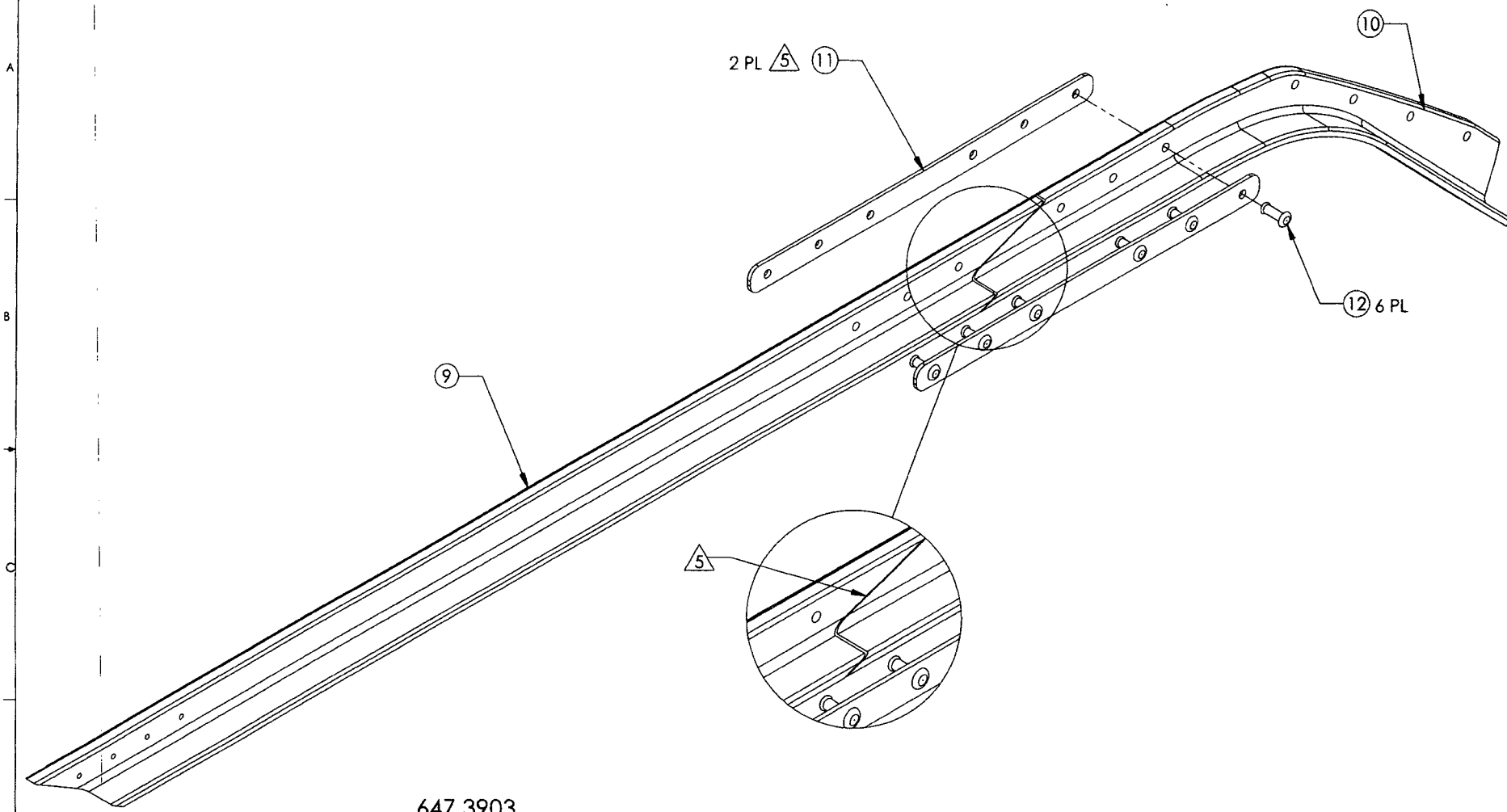
ORIGINAL DATE (M/D/Y-12)	06-10-09	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300			
DRAWN BY	CHENGEZ				
CHECKED BY	TO BARLER				
DRAWING APPROVAL	PL. BRAVO	DEFLECTORS			
06-10-09					
CONTRACT NO.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS: .015 3 PLACE DECIMALS: .0015 ANGLES: .5°		SIZE B	CAGE CODE 07M16	DWG. NO. 647.3900	REV. C
		SCALE NONE		1 SHEET 5 OF 12	

647.3914



ORIGINAL DATE HWO-DA-121	09-10-09	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300			
DRAWN BY D. SCHUP	TO CHECKER D. BAKER				
DRAWING APPROVAL P. BRAVO	DATE 09-10-09	DEFLECTORS			
CONTRACT No.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. PLACE DECIMALS .01 2. PLACE DECIMALS .005 ANGLES ±		SIZE 07M16	CAGE CODE 647.3900	DWG. NO. 647.3900	REV. C OF 12
		SCALE	NONE	SHEET	6 OF 12

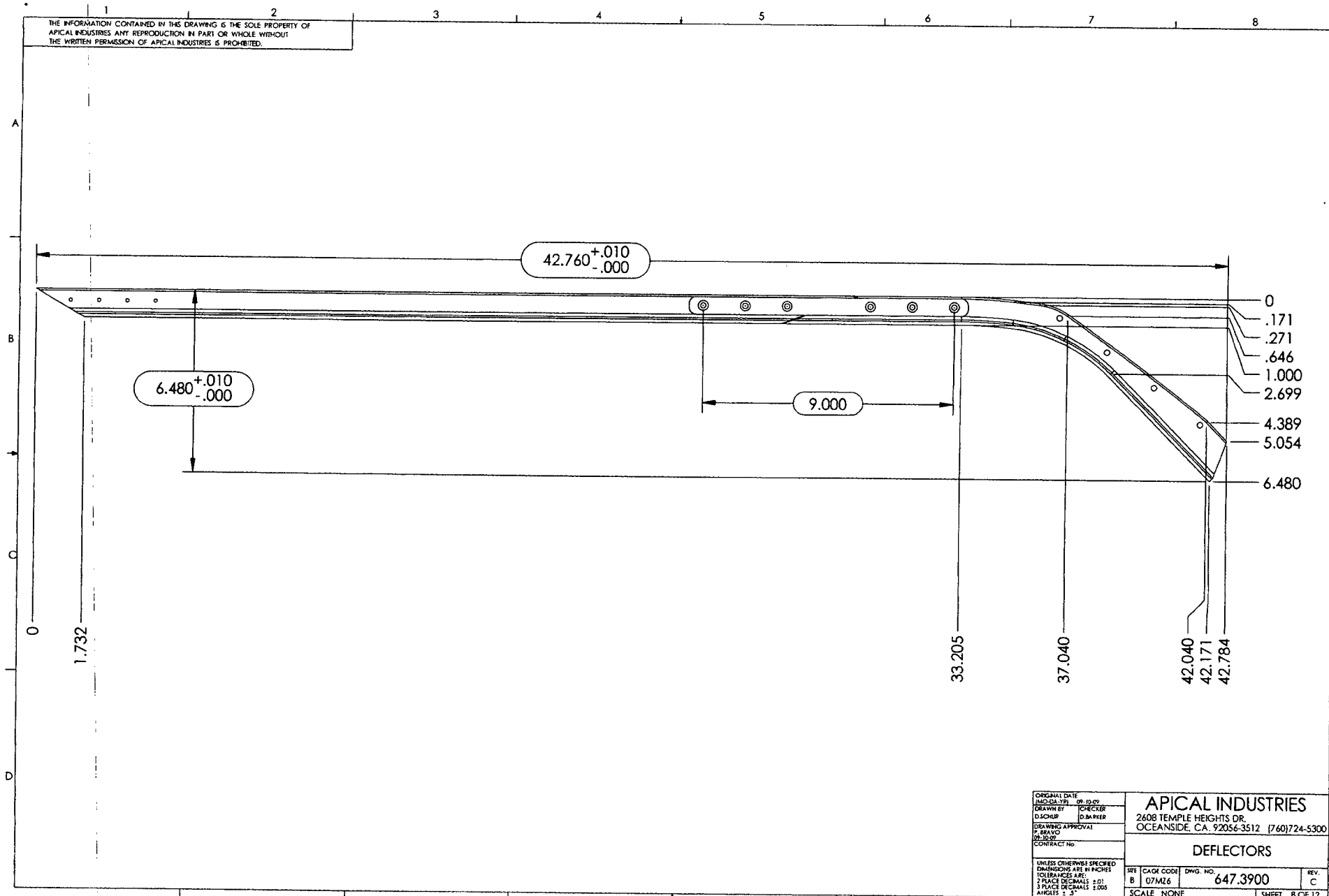
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647.3903

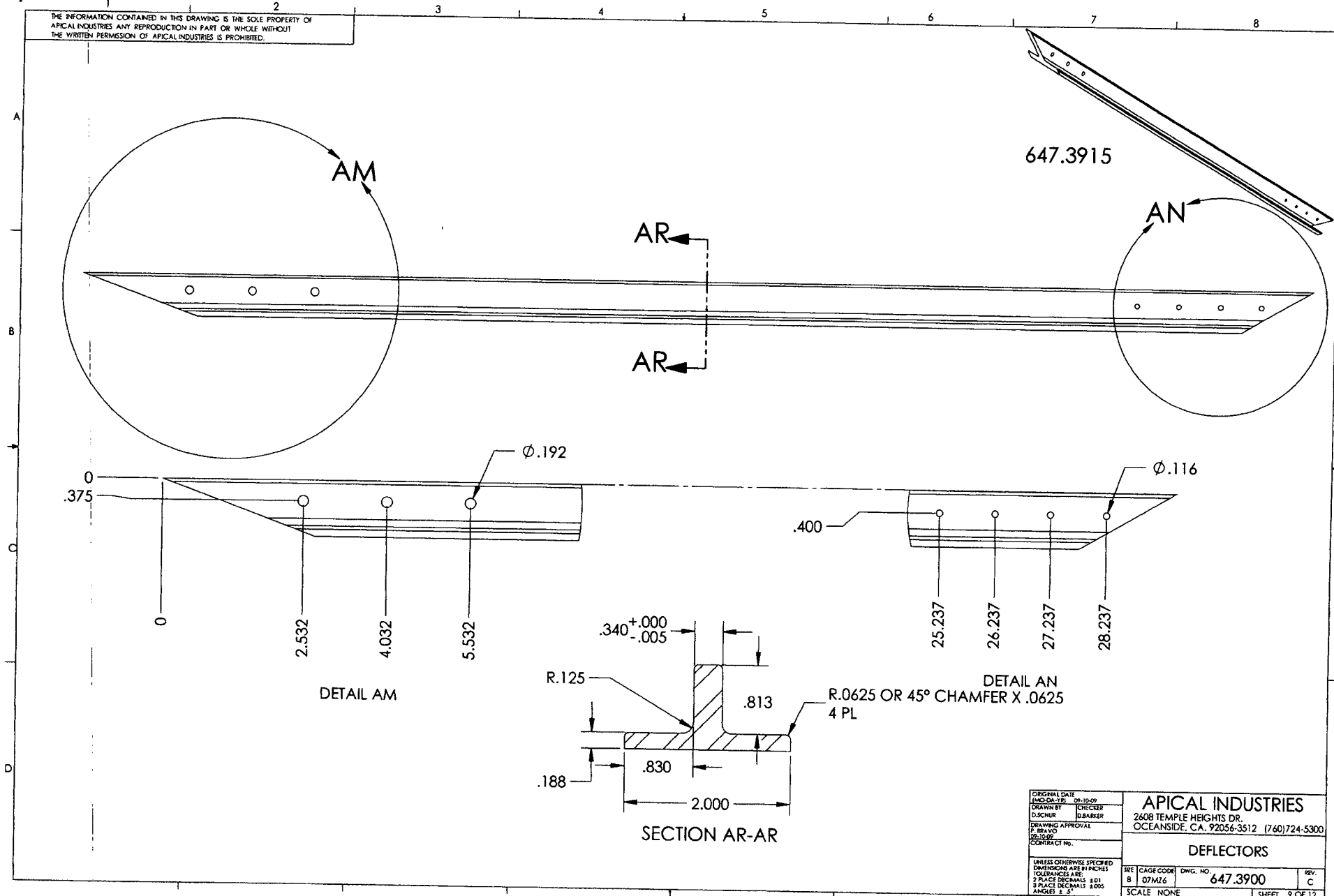
ORIGINAL DATE 06-10-09		APICAL INDUSTRIES	
DRAWN BY D. BARKER		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAVO		DEFLECTORS	
DRAWING APPROVAL 00-360			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SIZE B	CAGE CODE D7M26
		DWG. NO. 647.3900	REV. C
		SCALE NONE	SHEET 7 OF 12

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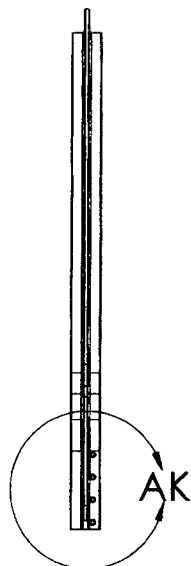
ORIGINAL DATE (M/D/Y) 08-10-09		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300			
DRAWN BY D.SCHUR	CHECKER D.BARKER				
DRAWING APPROVAL P. BRAVO	DATE 08-10-09				
CONTRACT NO.					
		DEFLECTORS			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 10 PLACES ARE: 1" PLACES DECIMALS ± .01 2" PLACES DECIMALS ± .005 ANGLES		SIZE B	CAGE CODE 07M26	DWG. NO. 647.3900	REV. C
		SCALE NONE		SHEET 8 OF 12	

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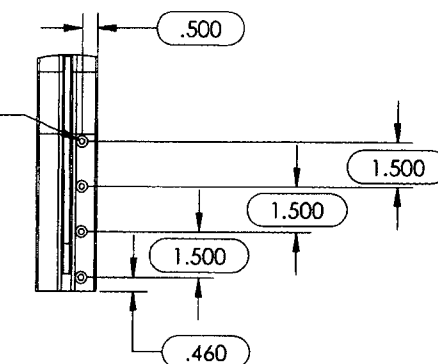


ORIGINAL DATE 10-10-09		APICAL INDUSTRIES	
DRAWN BY D. SCHUR	CHECKED D. BARKER	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		SEE CAGE CODE B 07M26	DWG. NO. 647.3900
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .01 3 PLACE DECIMALS .005 ANGLES ± .5°		SCALE NONE	REV. C
		SHEET 9 OF 12	

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4X $\phi .196 \pm .010$ THRU ALL
 $\checkmark \phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$



DETAIL AK

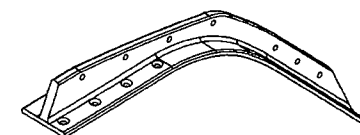
647.3915

ORIGINAL DATE 11-04-1971		09-10-05	
DRAWN BY D.SCHUR		CHECKED D.BARBER	
DRAWING APPROVAL P. BRAYO 09-10-05		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .002$ ANGLES $\pm .5^\circ$			
SHEET B		CAGE CODE 07M26	DWG. NO. 647.3900
SCALE NONE		REV. C	
SHEET 10 OF 12			

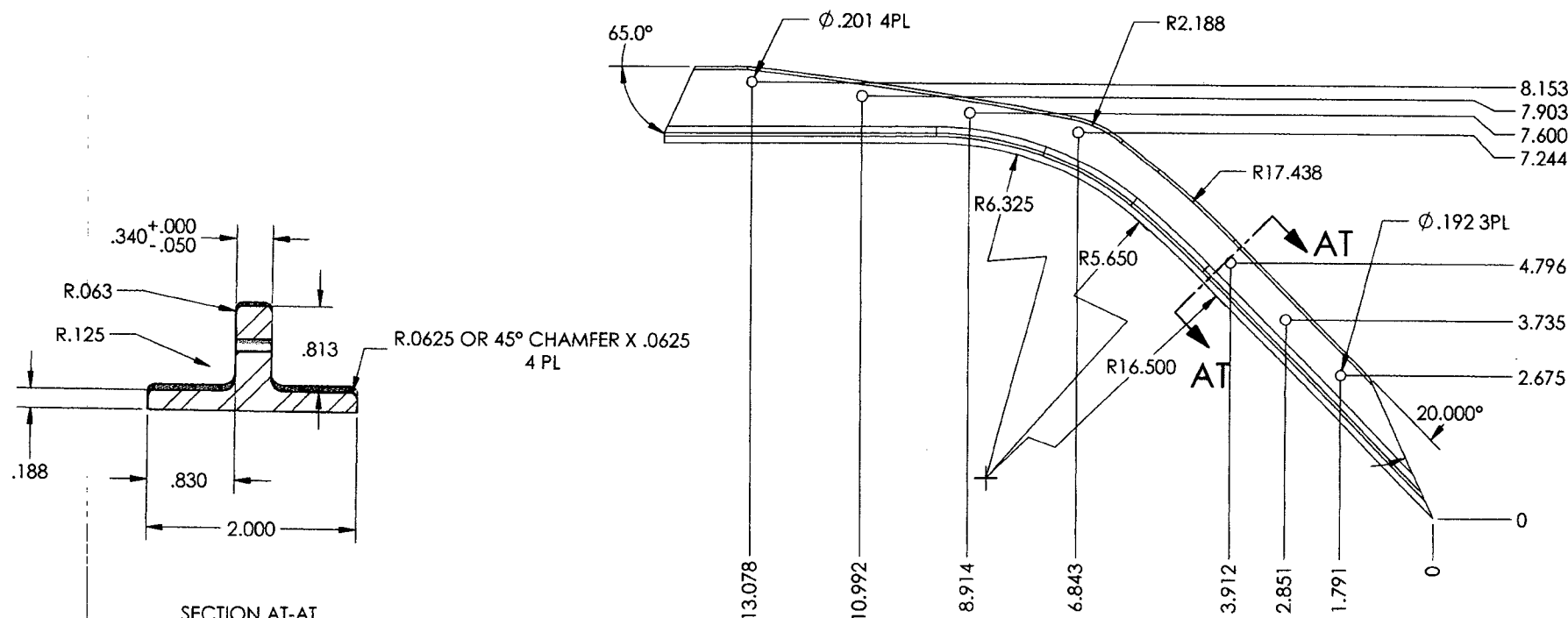
APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

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647.3916

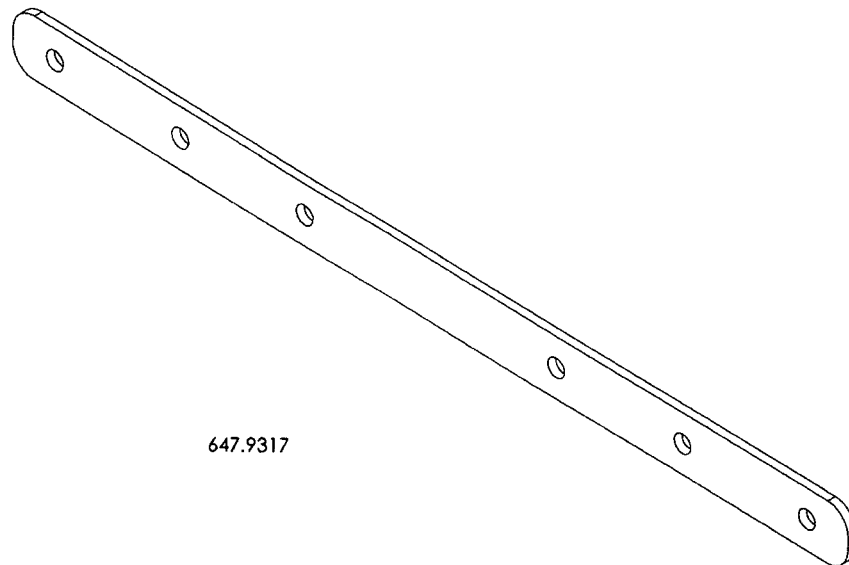


ORIGINAL DATE 10/03/78		PP-10-09	
DRAWN BY D.SCHUR	CHECKED BY D.BARKER		
DRAWING APPROVAL P. BRADY			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$			
SHEET B	CAGE CODE 07M26	DWG. NO. 647.3900	REV. C
SCALE NONE		SHEET 11 OF 12	

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

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R.250
4 PL

.625

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2.000

3.500

6.500

8.000

9.500

10.000

.090

Ø.196
6 PL

ORIGINAL DATE
09-10-09
DRAWN BY
D.J. CHUR
CHECKED
D. BARKER
DRAWING APPROVAL
P. BRAVO
DATE
CONTRACT NO.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
3 PLACE DECIMALS ± .01
2 PLACE DECIMALS ± .005
ANGLES ± .5°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

SIZE B	CAGE CODE 07M26	DWG. NO. 647.3900	REV. C
SCALE NONE			SHEET 12 OF 12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO32124**

Purchase Order Date 4/21/2016

PO Print Date 4/25/2016

Page Number 2 of 4

Order From :

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Total: \$5.75

4 144277

647.3916 DEFLECTOR
REV. C

4/28/2016

Yes

4/28/2016

8.00

\$18.10

\$144.80

Sp/6-04-Jle

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total: \$144.80

5 141020

646.3313 UPPER GUIDE
REV. N/C

4/25/2016

Yes

4/25/2016

18.00

\$13.10

\$235.80

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total: \$235.80

6 142825

D2348 WEARPLATE
REV. C

4/26/2016

Yes

4/26/2016

14.00

\$0.95

\$13.30

FINISH: BLACK ANODIZE AS PER MIL-A-8625F TYPE 1 OR IB / IC / II / IIB, CLASS 2

Note:

4/25/2016



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 911598

Date: 26-Apr-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
2 ea	Part: D5046-043 CO-PILOT Job: 19457	Rev: B PO: PO32124	Line: 1
1 ea	Part: D5155-043 CO-PILOT Job: 19458	Rev: B PO: PO32124	Line: 2
1 ea	Part: D5155-045 CO-PILOT Job: 19459	Rev: B PO: PO32124	Line: 3
8 ea	Part: 647.3916 DEFLECTOR Job: 19460	Rev: C PO: PO32124	Line: 4
18 ea	Part: 646.3313 UPPER GUIDE Job: 19461	Rev: N/C PO: PO32124	Line: 5
DATE: <u>4 Pri / 26, 2016</u>			
CERTIFIED SIGNATURE: <u>[Signature]</u>			
RECEIVER SIGNATURE: _____			
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
CERTIFICATE OF CONFORMANCE			
A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO			



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 911598

Date: 26-Apr-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via
Quantity	Description	
	REQUIREMENTS.	
	MADE IN CANADA.	
	<i>Sp/6-04-26</i>	